AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A high-density recording medium including one or more recording layers, the recording medium comprising:

a lead-in area including [[a]] disc information required for recording or reproducing data on or from the recording medium; and

a burst cutting area located at an inner area other than the lead-in area, the burst cutting area including a plurality of ~~one or more~~ data units;

wherein the disc information is included in ~~each of~~ the plurality of data units and the disc information includes ~~at least a~~ medium type information that identifies a type of recording layer in the recording medium,

~~and wherein~~ each said data unit includes data of 4 rows and parity of 4 consecutive rows,

each ~~of the~~ said data row ~~rows~~ has a sync field of 1 byte and an information field of 4 bytes, and ~~wherein each said data unit includes parity of 4 consecutive rows~~ ~~and~~ each ~~of the~~ said parity row ~~rows~~ has a sync field of 1 byte and a parity field of 4 bytes, and

~~wherein~~ the information field includes the medium type information indicating at least one of the following types: read-only, recordable, and rewritable.

2. (Previously Presented) The high-density recording medium according to claim 1, wherein the medium type information indicates that the recording medium is a writable medium or read-only medium.

3. (Previously Presented) The high-density recording medium according to claim 1, wherein each parity field is preceded by sync information.

4. (Previously Presented) The high-density recording medium according to claim 3, wherein the disc information is recorded in a first data unit.

5. – 7. (Cancelled)

8. (Previously Presented) The high-density recording medium according to claim 1, wherein the disc information further includes layer information.

9. (Previously Presented) The high-density recording medium according to claim 8, wherein the disc information further includes a sequence number to identify a data unit.

10. (Previously Presented) The high-density recording medium according to claim 8, wherein the layer information represents the number of layers included in the recording medium and is recorded in two bits.

11. (Cancelled)

12. (Previously Presented) The high-density recording medium according to claim 9, wherein the disc information further includes an application indicator to indicate use of a copy protection system.

13. – 14. (Cancelled)

15. (Previously Presented) The high-density recording medium according to claim 1, wherein the medium type information represents the type of a BD-ROM (BD-Read Only memory), a BD-R (BD-Recordable), or BD-RE (BD-Rewritable).

16. (Previously Presented) The high-density recording medium according to claim 1, wherein the data unit comprises a plurality of information bytes, the medium type information is included in at least one information byte.

17. (Cancelled)

18. (Currently Amended) A method for recording or reproducing data on or from a high-density recording medium including one or more recording layers, the method comprising:

identifying disc information recorded in a burst cutting area and lead-in area of the recording medium, the information including ~~at least a~~ medium type information that identifies a type of recording layer in the recording medium; and

controlling a data recording or reproducing operation, based on the identified information wherein the burst cutting area includes a plurality of ~~one or more~~ data units,

wherein the disc information is ~~being~~ included in ~~each of~~ the plurality of data units, ~~and wherein the identifying step identifies the disc information by processing at least one of the data units and wherein~~

each said data unit includes data of 4 rows and parity of 4 consecutive rows,

each ~~of the~~ said data row ~~rows~~ has a sync field of 1 byte and an information field of 4 bytes, ~~and wherein each said data unit includes parity of 4 consecutive rows and~~

each ~~of the data rows~~ said parity row has a sync field of 1 byte and a parity field of 4 bytes, and ~~wherein~~

the information field includes the medium type information indicating at least one of the following types: read-only, recordable, and rewritable.

19. (Previously Presented) The method according to claim 18, wherein the disc information further includes layer information to indicate the number of layers included in the recording medium, thereby identifying the number of layers of the recording medium.

20. – 21. (Cancelled)

22. (Previously Presented) The method according to claim 18, wherein the medium type information represents the type of a BD-ROM (BD-Read Only memory), a BD-R (BD-Recordable), or a BD-RE (BD-Rewritable).

23. (Previously Presented) The method according to claim 18, wherein the disc information includes reflectivity information of the recording medium recorded in two

bits, the reflectivity information controlling an optical power or an automatic gain for a recording or reproducing operation.

24. (Previously Presented) The method according to claim 18, wherein the identifying step identifies the disc information preferentially when the recording medium is loaded in a recording or reproducing apparatus.

25. (Previously Presented) The method according to claim 18, wherein the identifying step identifies the disc information in an early stage of recording or reproducing data on or from the recording medium.

26. – 34. (Cancelled)

35. (Previously Presented) The method according to claim 18, wherein the disc information includes a sequence number to identify a data unit, thereby identifying the data unit that includes the disc information.

36. (Previously Presented) The method according to claim 18, wherein the method further comprises:

moving an optical pickup to read data recorded on the burst cutting area; and

processing the data recorded in the burst cutting area to identify the disc information.

37. (Previously Presented) The method according to claim 18, wherein the identifying step identifies the disc information at an early stage of a drive start-up procedure.

38. (Currently Amended) A method for recording or reproducing data on or from a high-density recording medium including one or more recording layers, the method comprising:

reading disc information recorded in a burst cutting area and lead-in area of the recording medium, the burst cutting area being located at an inner area other than a lead-in area, the burst cutting area including ~~one or more~~ a plurality of data units, the disc information being included in ~~each of~~ the plurality of data units and including ~~at least a~~ medium type information that identifies a type of recording layer in the recording medium; and

controlling a data recording or reproducing operation, based on the disc information, wherein each said data unit includes data of 4 rows and parity of 4 consecutive rows, each ~~of the~~ said data row ~~rows~~ has a sync field of 1 byte and an information field of 4 bytes, ~~and wherein each said data unit includes parity of 4 consecutive rows and~~ each ~~of the~~ said parity row ~~rows~~ has a sync field of 1 byte and a parity field of 4 bytes, and ~~wherein~~ the information field includes the medium type information indicating at least one of the following types: read-only, recordable, and rewritable.

39. (Previously Presented) The method according to claim 38, wherein each data unit comprises a plurality of information bytes, the disc information being included in at least one of the information bytes of the data unit.

40. (Previously Presented) The method according to claim 38, wherein the disc information further includes layer information to indicate the number of layers

included in the recording medium, thereby identifying the number of layers of the recording medium.

41. (Previously Presented) The method according to claim 40, further comprising:

processing data included in at least one data unit to identify the disc information.

42. (Previously Presented) The method according to claim 41, wherein the processing step processes data included in each data unit to identify the disc information.

43. (Previously Presented) The method according to claim 38, wherein the medium type information represents the type of a BD-ROM (BD-Read Only memory), a BD-R (BD-Recordable), or a BD-RE (BD-Rewritable).

44. (Cancelled)

45. (Previously Presented) The method according to claim 38, wherein the disc information includes a sequence number to identify a data unit, thereby identifying the data unit that includes the disc information.

46. (Previously Presented) The method according to claim 38, wherein the reading step reads the disc information preferentially when the recording medium is loaded in a recording or reproducing apparatus.

47. (Previously Presented) The method according to claim 38, wherein the reading step reads the disc information in early stage for recording or reproducing data on or from the recording medium.

48. (Previously Presented) The method according to claim 38, wherein the reading step reads the disc information at early stage of drive start-up procedure.

49. (Previously Presented) The method according to claim 38, wherein the method further comprises:

moving an optical pickup to first read data recorded on the burst cutting area; and

processing the data recorded in the burst cutting area to identify the disc information.

50. (Currently Amended) An apparatus for recording or reproducing data on or from a high-density recording medium including one or more recording layers, the apparatus comprising:

an optical pickup; and

a controller operatively connected to the optical pickup and configured to identify disc information recorded in a burst cutting area and lead-in area of the recording medium, the information including ~~at least a~~ medium type information that identifies a type of recording layer in the recording medium and control a data recording or reproducing operation, based on the identified information,

wherein the burst cutting area includes ~~one or more~~ a plurality of data units, the disc information is ~~being~~ included in ~~each~~ the plurality of the data units, ~~and~~

~~wherein the apparatus identifies the disc information by processing at least one of the data units and wherein~~ each said data unit includes data of 4 rows and parity of 4 consecutive rows, each ~~of the~~ said data row ~~rows~~ has a sync field of 1 byte and an information field of 4 bytes, ~~and wherein each said data unit includes parity of 4 consecutive rows and~~ each ~~of the~~ said parity row ~~rows~~ has a sync field of 1 byte and a parity field of 4 bytes, ~~wherein~~ and the information field includes the medium type information indicating at least one of the following types: read-only, recordable, and rewritable.

51. (Previously Presented) The apparatus of claim 50, wherein the disc information further includes layer information.

52. (Previously Presented) The apparatus of claim 51, wherein the layer information represents the number of layers included in the recording medium.

53. (Previously Presented) The apparatus of 52, wherein the disc information further includes an application indicator to indicate use of a copy protection system.

54. – 55. (Cancelled)

56. (Currently Amended) An apparatus for recording or reproducing data on or from a high-density recording medium including one or more recording layers comprising:

an optical pickup; and

a controller operatively connected to the optical pickup and configured to read, via the optical pickup, disc information recorded in a burst cutting area and lead-in

area of the recording medium, the burst cutting area being located at an inner area other than a lead-in area, the burst cutting area including a plurality of ~~one or more~~ data units,

wherein the disc information is ~~being~~ included in ~~each of~~ the plurality of data units and ~~including~~ the disc information includes ~~at least a~~ medium type information that identifies a type of recording layer in the recording medium, ~~and control a data recording or reproducing operation, based on the disc information, wherein~~

each said data unit includes data of 4 rows and parity of 4 consecutive rows,

each ~~of the~~ said data row ~~rows~~ has a sync field of 1 byte and an information filed of 4 bytes~~, and wherein each said data unit includes parity of 4 consecutive rows and~~

each ~~of the~~ said parity row ~~rows~~ has a sync field of 1 byte and a parity field of 4 bytes, and ~~wherein~~

the information field includes the medium type information indicating at least one of the following types: read-only, recordable, and rewritable.

57. (Previously Presented) The apparatus of claim 56, wherein the disc information further includes layer information.

58. (Previously Presented) The apparatus of claim 57, wherein the layer information represents the number of layers included in the recording medium.

59. (Previously Presented) The apparatus of claim 58, wherein the disc information further includes an application indicator to indicate use of a copy protection system.

60. – 61. (Cancelled)

<End of Claims Listing>